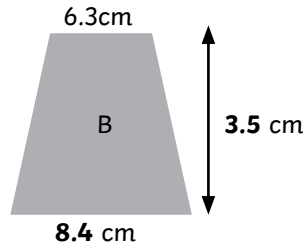1) a) Enlarged by a scale factor of 2.

   b) Enlarged by a scale factor of 2.

2) Odion is correct.

   1.2 × 3.5 = 4.2cm

   0.8 × 3.5 = 2.8cm

3) **6.3 ÷ 1.8 = 3.5cm**

   The shape has been enlarged by a scale factor of 3.5.

   To calculate the length of the base:

   2.4 × 3.5 = 8.4cm

   To calculate the missing height:

   1 × 3.5 = 3.5cm

6.3cm

B

3.5 cm

8.4 cm

---

1) **Smaller rectangle = Shape A (Perimeter of 8cm)**

3cm

A

1cm

4.5cm

B

1.5cm

   The perimeter has increased from 8cm to 12cm.

   **12 ÷ 8 = 1.5cm. This means that Shape A has been enlarged by a scale factor of 1.5.**

2) **Michael is correct. Triangles B and C are both enlargements of triangle A.**

   Triangle B is an enlargement of triangle B by a scale factor of 1.5.

   Triangle C is an enlargement of triangle C by a scale factor of 3.

3) **Josie is correct. It is possible to calculate the length of the side of square B, knowing that the shape is an enlargement of square A by a scale factor of 7.**

   Square A has a length of 7cm so multiply this by 7 to find the length of the side.

   7 × 7 = 49cm

   Square C has a length of 35cm. Use the inverse to calculate the scale factor.

   35 ÷ 7 = 5 (scale factor of 5)

Square	Length of Side	Scale Factor
A	7cm	**1**
B	**49cm**	7
C	35cm	**5**

1)

3cm

rectangle A | 2cm

9cm
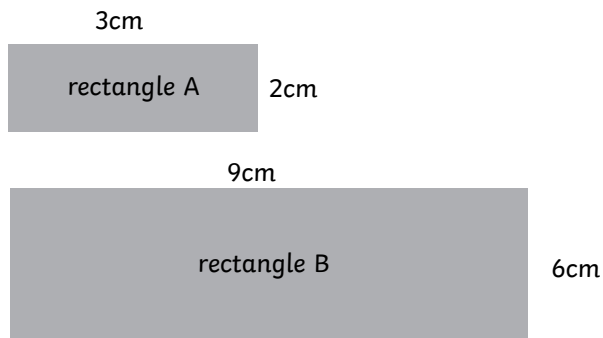
rectangle B | 6cm

The scale factor enlargement from rectangle A to rectangle B is 3.

2) **3.6cm ÷ 2.4cm = 1.5**
A scale factor enlargement of 1.5 has been applied.
If the scale factor enlargement of 1.5 was applied to shape C, 3.6 would need to be multiplied by 1.5 to find the correct length.
3.6cm × 1.5 = 5.4cm
Raul is incorrect. Shape C would have a length of 5.4cm (and a height of 4.5cm).

3) **The rectangle must have sides 14cm and 2cm.**
35 ÷ 14 = 2.5
The rectangle has been enlarged by a scale factor of 2.5.

14cm

| 2cm

4) **Enlarging by fractional scale factors results in the dimensions of any shape becoming smaller, even though we still refer to this as an enlargement.**
Examples of possible answers:
With a scale factor of 0.5 side lengths are
5cm and 2.5cm.
With a scale factor of 0.25 side lengths are
2.5cm and 1.25cm.
With a scale factor of 0.1 side lengths are
1cm and 0.5cm.
Also accept scale factors written in using the equivalent fractions and percentages:
$0.5 = 50\% = \frac{1}{2}$
$0.25 = 25\% = \frac{1}{4}$
$0.1 - 10\% = \frac{1}{10}$